

The

Ballarat

Naturalist

November 2009



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**Excursion to the Leigh River**

**Leaders: Jenny & Peter Sedgwick with Phil Kinghorn**

Following Jenny's enthusiastic presentation on Friday evening which whetted our appetite for the excursion, 21 members and friends enjoyed the opportunity of seeing a section of the Leigh catchment not normally accessible as it is surrounded by private property. With Phil Kinghorn along to interpret the geology, and Jenny and Peter finding interesting plants for us and our own observations of birds, we were able to appreciate many aspects of the Leigh River's environment.

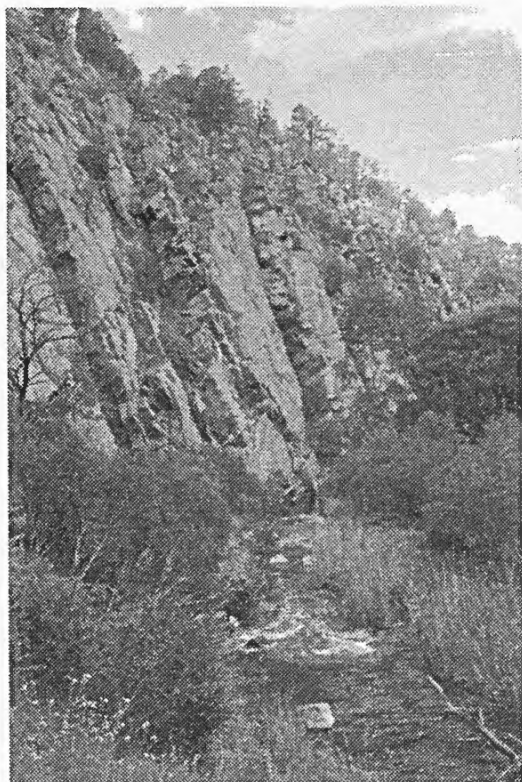
**The geological scene:** During Ordovician times (450 million years ago) a thick sequence of sandstones, siltstones and shales was deposited over a wide area of Central Victoria. Some of these had been eroded from volcanic hills in what is now South Australia, so the resulting weathering products included clays derived from feldspars and other minerals rather than just quartz which would have produced mostly sand. The sediments were gradually compacted, hardened and then deformed by east-west compressional forces - coming from what is now New Zealand - into tight folds whose axes plunge both north and south. We saw one of these plunging anticlines exposed in the bank of the Leigh River. In the clayey rocks this compression produced shales and slates.

Subsequently the rocks were invaded by quartz veins, some of which bore gold. The extraction of this gold in the 19<sup>th</sup> century upstream of our excursion site led to large quantities of sediment burying the alluvial flats along parts of the Leigh.

Following uplift of the Ordovician rocks there was a long period during which extensive denudation took place - the landscape was worn down. Later earth movements lifted Central Victoria and rejuvenated the rivers i.e. they had a steeper gradient to flow down to reach the sea and so eroded their valleys more deeply, producing the gorges seen along the Leigh.

During the Tertiary period, the area we visited was part of the coastline, so shallow marine sediments containing shells, interleaved with fluvial sands and grav-

els, were deposited over the Ordovician rocks. These outcropped as shallow bare patches between the river and the edge of the crops, seen as we walked downstream along a small tributary of the Leigh after leaving the cars just off Hendersons Road.



In turn these sediments were covered by numerous lava flows of the Newer Volcanics (Quaternary age) 2-3 million years ago. The time interval between successive flows was usually small as there are only thin or no alluvial sediments between them. However some of the sediments were rich in iron which had risen to within 12"-18" of the surface as groundwater rose, forming a matrix for pisolitic gravels which consolidated to form a rich red-brown conglomerate – the farmer had cleared the paddock of these stones and piled them up – easy for us to see!

So in summary: the hilltops are capped with basalt, under which lies a thin layer of marine sands and ferruginous gravels which in turn lie over the thick Ordovician deposits revealed in the bed of the Leigh and more obviously in the gorges.

After meeting at the Mt Mercer crossroads we inspected carpets of Golden Moth orchids *Diuris chryseopsis* flowering along Arthur's Lane, and noted the presence of a Snow Gum *E. pauciflora*, one of 76 localities from Daylesford to Mt Mercer where this species occurs either singly or in small groups. Bulbine Lilies *Bulbine bulbosa* were beginning to flower.

Driving on to Junction Bridge at the Leigh River we found Drooping Mistletoe *Anyema pendulum* and Grey Mistletoe *Anyema quandong* parasitising Silver Wattle *A. dealbata*.

Jenny told us that electro-fishing had revealed tench, trout and eels in the river. She also pointed out that the river's flow is somewhat artificial as it comes from the Ballarat South Sewage Treatment Plant in the Yarrowee valley. Its cleanliness is proved by the presence of platypus often seen here. A feast of bird calls greeted us – Clamorous Reedwarbler in the clumps of

*Phragmites* reeds, Grey Shrike-thrush, Fantail Cuckoo, Welcome Swallow, New Holland Honeyeater and Grey Fantail.

Driving south past the western edge of Bamganie Forest brought us to Henderson's Road where we entered a paddock lying between Woodbourne Creek and a small tributary of the Leigh. Following the line of the tributary we studied the uncultivated zone below the crops, finding Sweet Bursaria *Bursaria spinosa*, Tree Violet *Hymenanthera*



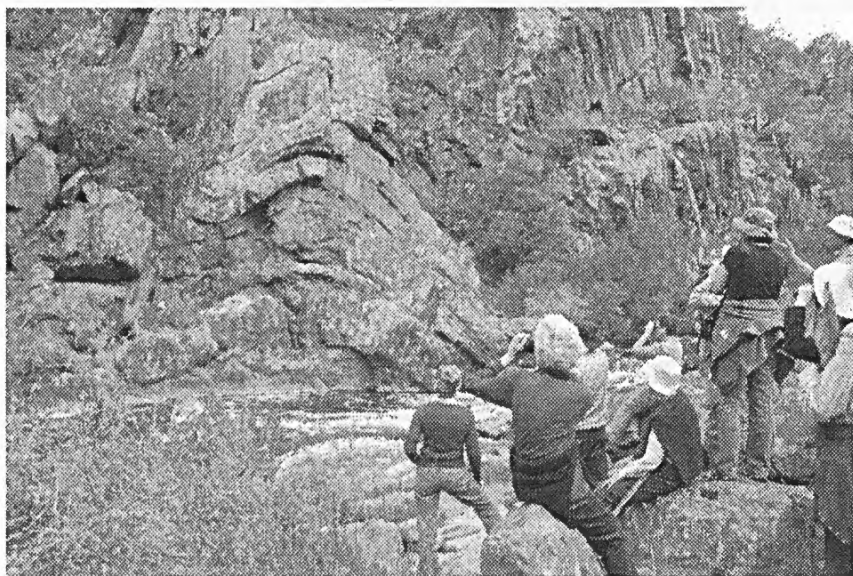
Golden Moth Orchids



*dentata*, native Oxalis, Scaly Buttons *Leptorhynchus* sp. and Clover Glycine *Glycine latrobeana*, a listed Vulnerable plant. Black Wattle *A. melanoxylon* was in flower; a tiny pink *Convolvulus* was found, and carpets of sundews *Drosera peltata* ssp. *peltata*. We were invited to find a "mystery" *Pomaderris* ? plant, a specimen of which Jasmyn duly passed on to Martin Westbrook whose email said *Obviously not Pomaderris in the flesh. It is a confusing one because it is an Olearia without ray florets. Olearia tubuliflora. Interesting but there are Brisbane Ranges records.* Jenny's comment: I looked up the net where it is noted as a rare VROT plant for Golden Plains Shire and the Central Victorian Uplands Bioregion.

More birds were added to the list: Galah, Rufous Whistler, Goldfinch, Little Eagle, White-throated Tree-creeper, White-plumed Honeyeater, Superb Fairy Wren and a Thornbill.

As we walked downstream the channel to our right became deeper and eventually we were following a cliff top, giving us good views to the junction with the Leigh River where the strike of the tilted sandstones formed small rapids. On the opposite bank *Callitris* pines were visible. Further along, with wonderful views across the Leigh to a tightly folded plunging anticline and a steep river cliff in massive sandstones tilted at 75°-80° on the outside of the bend, we had lunch.

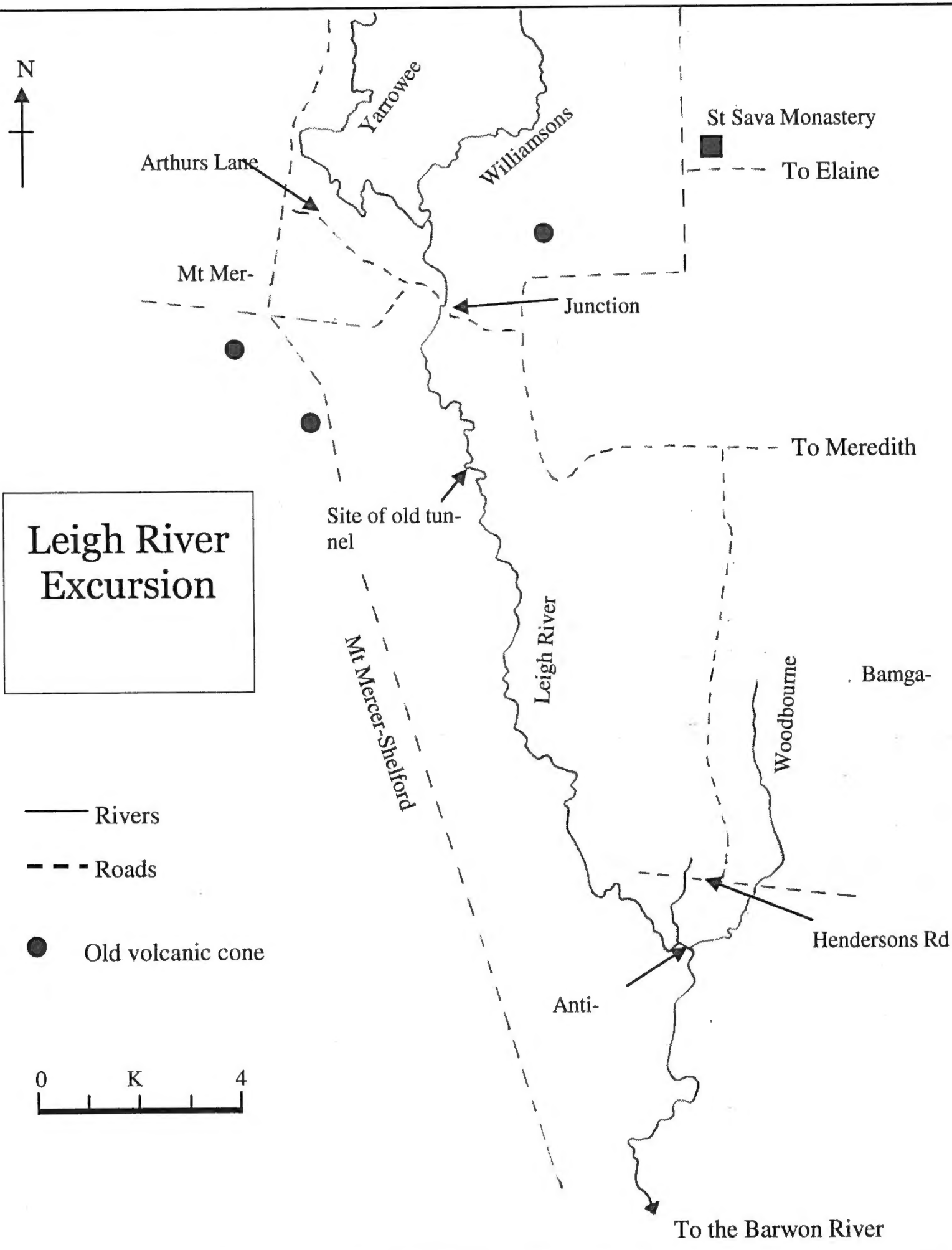


Closer inspection of the anticline at water level revealed stress folds and fractures; a scramble to the fallen rocks at the base of the river cliff showed us shrubs rooted high up in the near-vertical bedding planes of the partially collapsed rock strata. Whitewash splashes indicated the roosts of Peregrine Falcon, and eventually we saw one flying just above the top of the cliff which here is around 100m high.

Many thanks to Peter & Jenny for obtaining permission for us to visit this unique locality. It was a treat to see the unspoilt channel of the Leigh, and to receive the benefit of Phil's expertise in understanding the geomorphology.

Report and photos by Carol Hall

**Wattles of Ballarat-Member Price - \$12**  
Obtain your copy at the meeting. Give copies to your friends  
for Christmas!



## Ballarat to Barwon by Jenny Sedgwick

Jenny Sedgwick accompanied by her husband Peter came to the October meeting. Jenny has worked in Landcare with the Leigh Catchment Group and spoke on the Leigh River, its tributaries and associated landforms and plant communities prior to leading the Sunday excursion to the area.

Accompanying her talk with photographs of the area, plants and geology formations Jenny provided background which would enable an understanding of the environment in which the water system was located and set the scene for the excursion.

She explained that the water for the Leigh starts with the Yarrowee River. This river is unusual in having a city at the top of its catchment. Near Mt Mercer there is a confluence of the Yarrowee River and the Williamson Creek after which the water way is known as the Leigh River following an Act of Parliament in the 1970s which formally settled the naming.

The Leigh catchment land use comprises 4% urban (blocks 300 to 3,500 sq metre), 14% rural urban (<25Ha blocks) and 82% agricultural, historically grazing but increasingly used for cropping. River tenure varies with crown land, leased crown land and private occupation with some of the private occupation going to the centre of the stream so the whole length does not have public access. The state of the catchment and riparian zone is also diverse. Near the Gong Reservoir there is a bit of remnant regeneration, whereas there are very weedy corridors near Magpie and Garibaldi. At Garibaldi there is a tree over-story but the under-story includes gorse and blackberry.

A graph showing the change in elevation of the river was displayed which showed that near Mt Mercer the river dropped 200m in 6km.

Historic photos showed miners working Buninyong Creek as an example of the treatment which streams were subjected to in the past. As a result millions of tons of material has been washed down the river. It was pointed out that if we look at Black Hill and observe the material removed, all of that is now on the Leigh flood plain. Concern about the state of the river is not new. There is a quote in the Geelong Advertiser in the 1880s complaining about sand coming down the river and in 1910 there was a 'Sludge Abatement Committee' and battery sand upstream of Shelford was 1m deep.

However, despite the historic degradation Jenny reported they had seen eight platypus including a couple of juveniles and that platypus had been seen at Magpie and Garibaldi.

To wet our appetite for the excursion Jenny explained the route that would be taken and included photographs of the scenery, geology including an impressive anticline and a sample of the plants and flowers that were likely to be seen.

The October meeting was well attended with 30 people present and as well as Jenny and Peter it was a privilege to have Phil Kinghorn provide additional information on the geology. Thank you Jenny for preparing and presenting the story which you titled Ballarat to Barwon.

Peter Dalman

## **SEANA Dunkeld Camp – 2nd to 4<sup>th</sup> October 2009**

The Spring 2009 South East Australian Naturalists Association Inc. camp was conducted by the Hamilton Field Naturalists Club at the Grampians Retreat near Dunkeld. One hundred and twenty people attended with 80 being accommodated onsite.

After dinner on Friday evening the program included talks by a number of people to provide information about the weekend and the local environment. We were welcomed by Reto Zollinger, the Hamilton club president. Ken Grimes spoke on the geology, John Cayley showed some historic rock climbing photos, Rod Bird covered local wetlands and David Munro spoke on fungi and orchids. Pam Whiteley pointed us to the Wildlife Health Surveillance site at <http://www.vet.unimelb.edu.au/wildlifehealthsurveillancevic/>

Over Saturday and Sunday twelve different excursions were offered with some being repeated on both days and some of the Saturday excursions being for the whole day. The trips were all led by local naturalists. Some went into the Grampians whilst others went south of Dunkeld to wetlands. The energetic could climb hills and the more sedate could keep to the plains. The year was described as the wettest for the last ten years and there was water in most of the local wetlands. There was also a good crop of flowering plants and orchids.

One of the excursions led by David and Lyn Munro was a bus trip - initially to the Dunkeld Rifle Range and then via back roads to Victoria Point and then to Cavendish for lunch. The Rifle Range was a very rewarding area. Amongst a plethora of flowers and other orchids, a *Caladenia venusta*, Common white spider orchid (but not common) was observed. The Wannon River at Cavendish was a great sight, flowing strongly. The roadside stops whilst returning from Cavendish revealed a good range of flowers but the purpose for stopping was a couple of unusual plants. At the first stop on the north side of the road Doug pointed out an *Acacia exudans*. He explained that this plant was only known at this site near Cavendish and about 20 other locations. It is like Varnish wattle, *Acacia verniciflua*. A little further along on the south verge were groups of a different



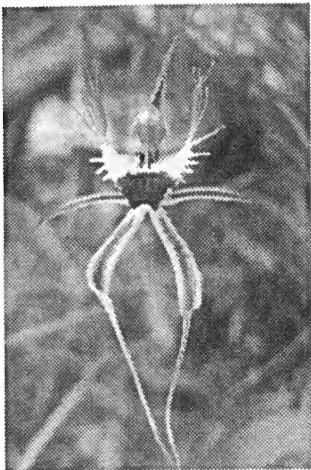
Golden moth, *Diuris gregaria*. This orchid, as its name indicates grows in groups and is smaller than the more common *Diuris chryseopsis*. It is found between this area and Derrinallum. Next a stop was made at a wet area and here Swamp Daisy *Brachyscome cardiocarpa* was pointed out but a number of people were also pleased to see Fairies aprons *Utricularia beaugleholei*. A final stop was made at Bryans Swamp where there were more than 200 swans amongst other bird species. Altogether during this excursion more than 40 species of birds were observed.

The SEANA meeting was held before tea on Saturday but was cut short by the dinner gong. On Saturday evening Dr Lindy Lumsden provided an enlightening talk on bats. She explained that bats have been around for 55 – 65 million years and that they can eat half to three quarters of their body weight in food each day so they are great controllers of insects and much more important for this than birds. However, because they forage at night they often go unnoticed. At the end of her talk she produced her 'pet' bat. She has had the bat for many years. It seemed quite calm and it was wonderful to be able to observe it close up. Lindy also set up a harp trap which we were invited to inspect with her before retiring and early in the morning.

On Sunday eight half day excursions were offered and it was good to see the extent of the wetlands.

The weekend finished with most people enjoying lunch together at the camp location.

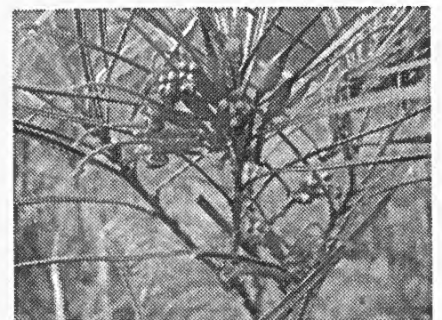
Peter Dalman



Greencomb Spider  
Orchid



Red beak orchid



Flame grevillea– *Diamorpha*

photographs by Val Hocking

# CALENDAR 2009

## NOVEMBER

**Fri 6 Club Meeting - Pea Family Workshop - John Gregurke & Club Members**

*We will be examining specimens, so bring a hand lens of magnifying glass to examine the details of pea flowers*

**Sun 8 Excursion - St Andrew's Block, Beaufort - Elizabeth & Denis Thurgood, Club Members**

**Committee meeting- :24<sup>th</sup> November at 7.30 pm at 4 Cromwell St, Wendouree.**

**Mid Month Excursion-**

## DECEMBER

**Fri 4th Club meeting** Matt Gibson Centre for Environmental Management University of Ballarat. "*Nanya*" University of Ballarat's SW New South Wales Research Station

**Sun 6th Excursion Enfield** Bill Murphy Club member

**DIARY DATE for 2010 - March 19-22 (Fortnight after long weekend)  
SEANA in BALLARAT**

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### Committee

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Secretary..... Mr John Gregurke

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**Website:** [www.ballarat.yourguide.com.au](http://www.ballarat.yourguide.com.au) Click on *Community>Local Clubs> Environment*

**Meetings** are held at Ballarat Horticultural Centre, cnr. Gregory & Gillies Sts (VicRoads 254 F8) on the first Friday of the month at 7.30pm.

**Excursions:** Depart from Ballarat Horticultural Centre, cnr. Gregory & Gillies Sts (VicRoads 254 F8) at 9.30am unless otherwise specified.

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